4F active pacing lead were introduced to perform his bundle pacing. Regular follow up was performed and pacing parameters were studied during the time spot of three month after pacemaker implantation.

RESULTS Two patients the DHBP group were then confirmed to be para His bundle pacing with the evidence of longer QRS duration, distinct QRS morphology of ECG, and shortening of QRS duration under high output. Eighteen patients of DHBP group and twenty-two of RVA group were finally compared. Pacing threshold in DHBP group was 0.90±0.57 V and 0.85±0.32 V in the RVA group (P=0.005). Impedances in the DHBP group were468.43±48.83Ω while impedances in RVA group were 600.27±94.72Ω (P=0.06). R wave amplitude was 6.54±3.0mV in the DHBP group compared with 12.22±5.20mV in the RVA group (P=0.03). No dislodgement or other complications were found in either group.

CONCLUSIONS Pacing parameters during direct his bundle pacing were as stable as conventional right ventricular apical pacing. Direct His bundle pacing can be an option of selective pacing site superior to RVA.

GW26-e5319

Percentage of ventricular pacing in patients with atrioventricular block after pacemaker implantation

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OBJECTIVES To investigate the percentage of ventricular pacing (% VP) in atrioventricular block (AVB) and analyze the risk factors which may affect %VP, with the aim of providing guidance for electrophysiologists when programming pacemaker.

METHODS A total of 228 consecutive patients with atrioventricular block indicated for pacemaker implantation were enrolled in Peking Union Medical College Hospital between January 2006 and September 2014. Clinical characteristics and programming data were analyzed.

RESULTS There were 125 males and 103 females. The mean age was 68.21±14.45 years. The median time of follow-up was 24 months. One hundred and twenty-three patients (53.94%) were pacing dependent (%VP≥99%). Patients with complete AVB were more likely to be pacing dependent compared to the patients with second degree AVB (59.06% vs 47.52%, P<0.05). Patients with persistent AVB were more likely to be pacing dependent compared to the patients with second degree AVB(60.37% vs 37.50%, P<0.05). Patients without heart failure were more likely to be pacing dependent compared to the patients with heart failure(57.61% vs 38.64%, P<0.05). Sex, age, course of disease, hypertension, coronary heart disease, hyperlipidemia, diabetes, beta-blockers, calcium channel blockers, ACE inhibitors and angiotensin receptor blockers seemed to be no significant relationship with %VP. Thirty-three of 96 patients (34.38%) with persistent complete AVB were not pacing dependent, and 47 of 101 patients (47.5%) with second degree AVB were pacing dependent.

CONCLUSIONS Patients with persistent and complete AVB as well as without heart failure were more likely to be pacing dependent. The AV node function seems to partly recover in some patients with complete AVB, while some patients with second degree AVB will progress to complete AVB, which will provide guidance for electrophysiologists when programming pacemaker on AV search algorithm.

GW26-e1014

Prognostic significance of QT dispersion in patients receiving cardiac resynchronization therapy

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OBJECTIVES Cardiac resynchronization therapy (CRT) has become an effective method to treat refractory heart failure, but the long -term prognosis remains a clinical challenge. This study investigated whether QT corrected dispersion (QTcD) could be considered to be an independent marker of prognosis after CRT implantation.

METHODS We stratified 44 patients receiving CRT into two groups on the estimation of QTcD, that is, QTcD>60 ms and QTcD≤60 ms. In all patients were performed New York Heart Association (NYHA) class determination, Pro-BNP level, QTcD and QRS measurements, and complete echocardiographic assessment at the 1,3,6,12 and 18 months after pacemaker implantation. The end point was prospectively defined as rehospitalization and cardiac mortality.

RESULTS At baseline, the 1st, 3rd, 6th after implantation, there were no significant differences in NYHA class determination, pro-BNP, QRS duration and echocardiographic parameters between the two groups (P>0.05). However, after 12 and 18-months follow-up, there had significant differences in left ventricular ejection fraction (LVEF), LV end-diastolic diameter (LVEDd), pro-BNP (P<0.05). Moreover, rehospitalization and cardiac mortality were significantly decreased in the patients with QTcD<60 ms.

CONCLUSIONS The results reveal that the CRT patients with QTcD<60 ms have a better long-term prognosis and QTcD should be an independent factor of prognosis after CRT implantation.

GW26-e4547

Effects of Ivabradine on cardiac electrophysiology in dogs with age-related atrial fibrillation

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OBJECTIVES Ivabradine is an inhibitor of mixed Na^+-K^+ current that could combine with HCN channels to reduce the transmembrane velocity of funny current (If), heart rate, and cardiac efficiency, and thus be used for the treatment of cardiovascular diseases such as chronic heart failure. As an ion channel blocker, Ivabradine is also a potential anti-arrhythmic agent. To explore the effects of Ivabradine on the electrophysiological parameters in a dog model of age-related atrial fibrillation (AF), and investigate the underlying mechanisms.

METHODS Aged Beagle dogs underwent rapid atrial pacing for two months to induce age-related AF in this study. The dogs were randomly divided into the Ivabradine group and control group. The effects of Ivabradine on the electrophysiological parameters, including the effective refractory period of the pulmonary veins and atrium, duration of AF, and inducing rate of AF, were investigated.

RESULTS As compared to the control group, the ERPs of the left superior pulmonary vein (139.00±4.18 ms vs 129.00±4.08 ms, P =0.005) and left auricle (135.00±3.53 ms vs 122.00±4.47 ms, P =0.001) were significantly increased, while the duration of AF (46.60±5.07 s vs 205.40±1.14 s, P =0.001) and inducing rate of AF (25% vs 60%, P =0.001) were significantly decreased.

CONCLUSIONS Ivabradine could effectively reduce the inducing rate of AF, and thus be used as an upstream drug for the prevention of age-related AF.

GW26-e1322

Incidence and influence factors of new onset rapid atrial arrhythmias patients with permanent pacemakers

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OBJECTIVES To assess the incidence of new onset rapid atrial arrhythmias (RAT) in sick sinus syndrome (SSS) or high-degree atrioventricular block (AVB) patients with permanent pacemakers, and investigate the influence factors of new onset RAT in patients with permanent pacemaker.

METHODS We collected the hospitalized SSS or high-degree AVB patients with permanent pacemakers from January 1, 2011 to December 30, 2012 in the Department of Cardiology of the 2nd Hospital of Jilin University. The data were collected from the medical history and the follow-up records. Mean follow-up duration is 36±9 months.

A retrospective study was performed on 180 eligible patients. All the pacemakers were first implanted and in accordance with the class I and IIa indication. We recorded the detailed demographic and clinical characteristics, including gender, age, smoking, drinking, coronary heart disease, hypertension and diabetes, lipids level, heart function, prescription of angiotensin-converting enzyme inhibitor (ACEI) / angiotensin II receptor blocker (ARB) and statin, the size of left atrium (LA) before pacemaker implantation, pacing mode (VVI pacing mode, non -VVI pacing mode), indication for pacemaker implantation (SSS/AVB). The endpoint was the occurrence of new onset RAT. All statistical analyses were carried out using SPSS 18.0. Single logistic regression was used to analyze the association of considered influences with RAT. The significant variables (P<0.05) in single logistic regression (unadjusted logistic regression) were considered for multivariable logistic regression analysis. We used odds ratio (OR) with 95% confidence interval (CI) and p values to describe the results of logistic regression.

RESULTS There were 48 patients (26.7%) developed atrial tachyarrhythmia, including 9 cases (5%) with AT, 3 cases (1.7%) with AFL, 36 cases (20%) with AF. The other patients did not developed RAT during follow-up. Univariate logistic regression analysis indicated that